



Turtugaruba activity report 2020

The Aruban Foundation for Conservation and Research of Sea Turtles “Turtugaruba” looks back to a year filled with monitoring and nest protection activities.

The number of school lectures and guidance of youngsters for classroom presentations was less than previous years due to Covid-19 restrictions. Clean ups of nesting beaches were still organized, but low profile and respecting social distance.

Eight “stranded” sea turtles were attended ranging from a carapace along the road to fatally injured turtles washed ashore. Remains of dead turtles were delivered at the Cites Authority at Barcadera. Incredibly special was the rehabilitation of a large Green turtle, Shelly-Ann. She was encountered at sea with serious problems, large fibropapillomatosis tumors and a floating syndrome. After four intense weeks of care and veterinarian intervention she could dive again and feed herself. She was released back into the ocean. This happy ending was possible thanks to all the dedicated people who took care of her and made it happen.



Fibropapillomatosis tumor



release

photo A. Goedgedrag

The following pages describe the monitoring results of 2020.

Sea turtles are protected by law (Natuurbeschermingsverordening, AB 1995 no. 2).

Unfortunately, Aruba’s turtles and nesting beaches are under multiple human threats, like further coastal development, artificial light, illegal driving on beaches and trash-pollution.



artificial light at Eagle Beach



Illegal driving on sandy beaches and dunes

Monitoring 2020

Four turtle species come ashore to nest in Aruba. In general, they migrate long distances from their feeding habitats to nest on their native beach. 22 nesting beaches have been monitored by a team of approximately 35 volunteers. Moreover, Turtugaruba received spontaneous turtle alerts from several conscious beach visitors. 'Masha danki' (thank you) to all who did contribute.

Leatherback / Driekiel / *Dermochelys coriacea*

A. The West coast

Developed coasts and crowded beaches are full of threats for nesting females and the little hatchlings. Volunteers of Turtugaruba patrol the beach March-September for effective protection on Eagle Beach. They localize nests, mark and protect them with the sturdy red/white barricades. This season early signs of nesting activity at Palm Beach and Arashi made it necessary to include these beaches in the daily routine.



The "stock" supplied by DOW and stored at Costa Linda Beach resort

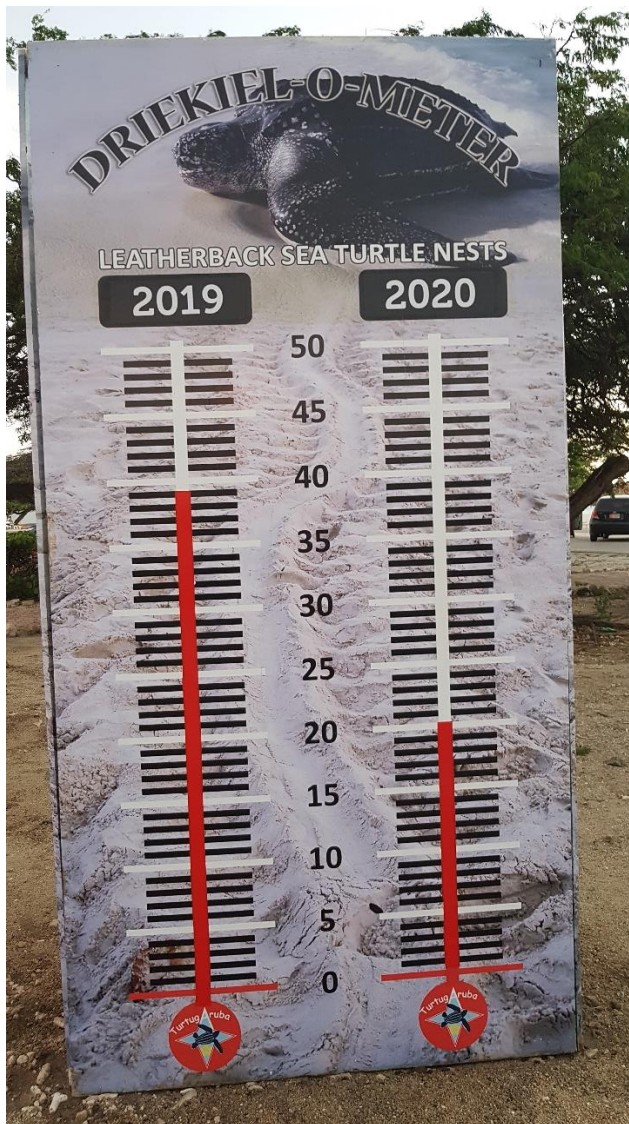


Arashi beach

Once a nest is identified it is protected with the red-white barricades from the department of public works (DOW).

Explanation to onlookers, daily checks and the guidance of the hatching process after approx. 2 months of incubation are indispensable tasks in order to enable hatchlings to crawl into the ocean.





During the 2020 nesting season 4 different females have visited the West coast beaches: Eagle Beach, Palm Beach and Arashi.

One of these females is a remigrant, previously tagged in Aruba while nesting in 2017.

Three females were not observed before in Aruba.

Hopefully, they will revisit Aruba in the coming years and show site fidelity. Together the 4 females laid 20 nests. The individual nesting frequency was 4 - 6 nests.

The driekiel-o-meter along the boulevard at Eagle Beach indicates the actual nest number and is kept up to date.



Nest at Palm Beach



Hatch of Leatherback nest at Eagle Beach, Aruba

19 nests have been excavated for investigation and data collection.

Average nest depth was 82 cm (range 65 - 105 cm). On average the nests contained 85 yolk-eggs (range: 38 - 115). The average incubation period was 61.3 days (range: 58 - 65d). This average incubation period is two days faster than in 2019.

The hatch success ranged from 0 to 89 hatchlings in a nest, averaging 48.8 per nest ($\approx 57.2\%$ hatching success). Three nests did not hatch due to flooding by high seas.

The total number of Leatherback hatchlings that reached the ocean was 977.



Nest excavation for data collection. The little tracks of the natural hatch during the previous night are still visible.

A. The North coast

In 2020 Turtugaruba has monitored 15 Leatherback nests at the other side of the island, spread over four beaches, Dos Playa, Daimari, Andicuri and Wariruri. The nests and the hatches are detected by early morning survey.

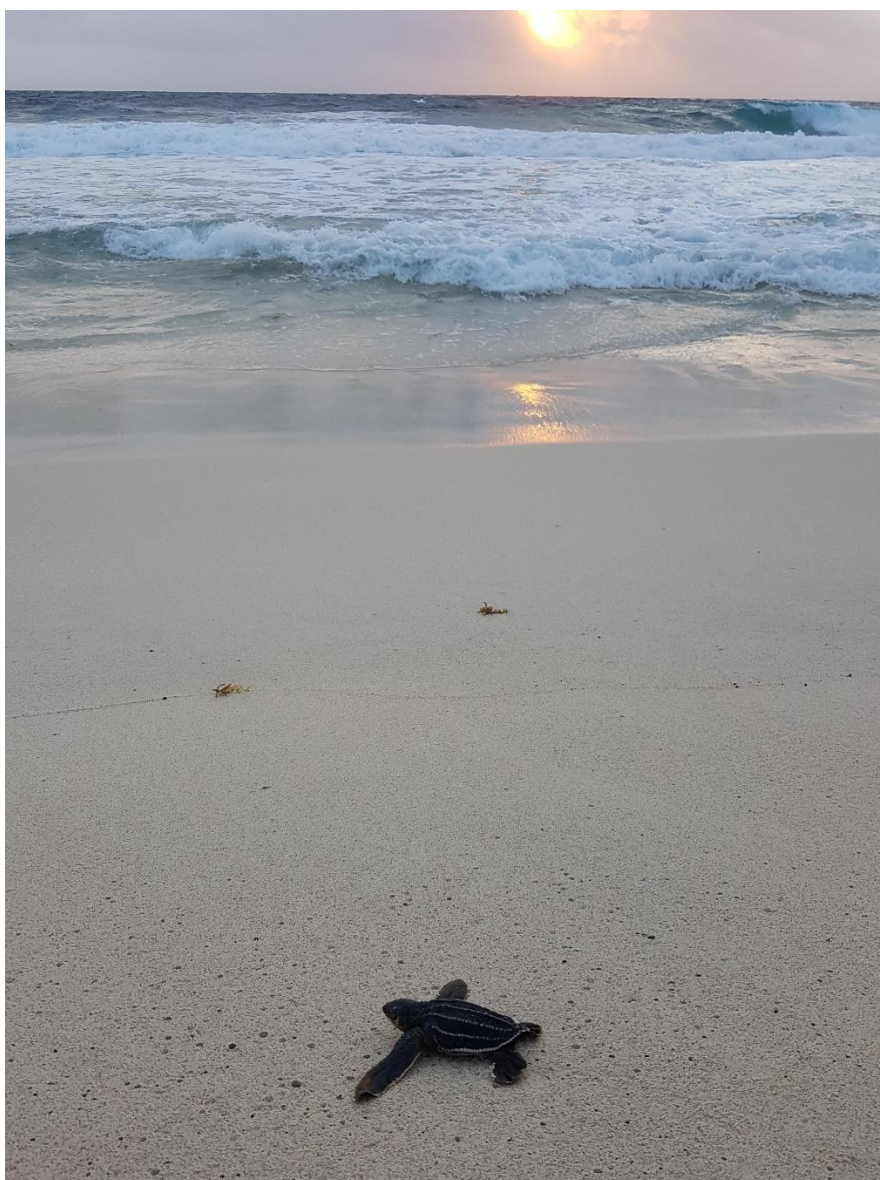


Fresh track of a Leatherback Sea Surtle

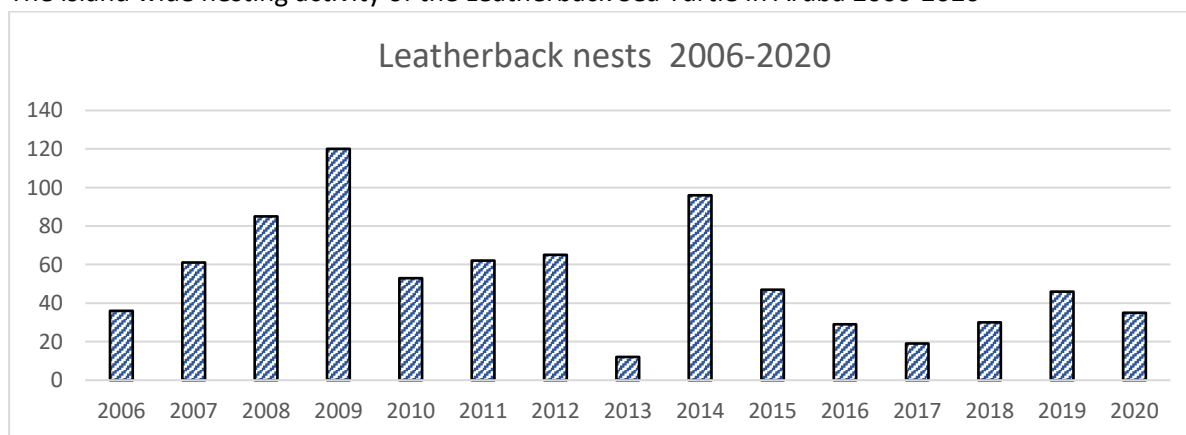


Little tracks of hatchlings

The last decade the number of Leatherback nests at the North coast fluctuates annually, averaging 20 nests/season (range 0-47 nests).



The island wide nesting activity of the Leatherback Sea Turtle in Aruba 2006-2020



Loggerhead / Cawama / *Caretta caretta*

A. West coast

In the previous century, Loggerhead turtles also used to nest on Eagle Beach and Palm Beach. Over the last twenty years some nests were laid north of the Holiday Inn resort, but their nesting habitat is gradually being reduced due to coastal development and today limited to the Fishermen's Huts area. In 2005-2007 Turtugaruba could protect this last remaining Loggerhead nesting habitat at Aruba's west coast with a retainer wall sponsored by Bucuti & Tara Beach Resort. In 2018-2019 this wall has been restored with financial support from the same sponsor and labor support of DOW.



Turtle retainer wall Fishermen's Huts



Nest at Fishermen's huts.



Spontaneous helping hands.

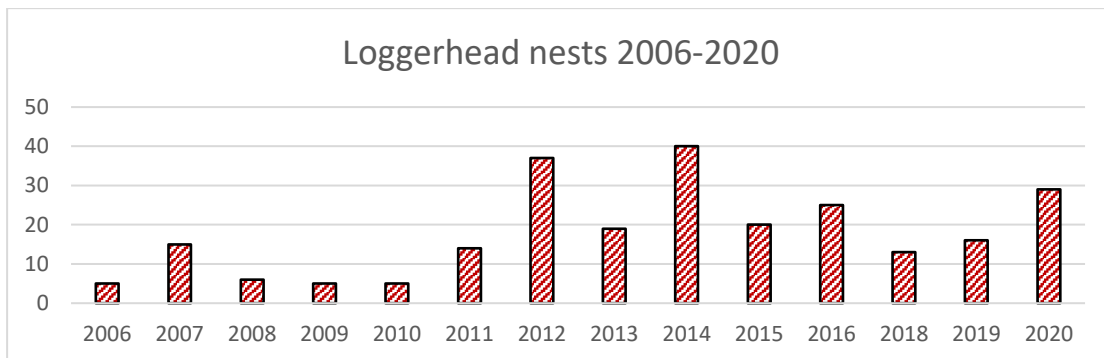
B. North and East coast

By expanding the monitor efforts island wide Turtugaruba volunteers have discovered some other beaches that receive Loggerhead nests. This monitoring is done by early morning beach surveys. Depending on the anthropogenic threats at the specific nest location these nests are marked with driftwood or left untouched, just recording the location (GPS and triangulation). When hatching is imminent some nests need additional protection. Artificial light is a serious problem. Lights, even at large distance, can disorient the hatchlings and lure them in the wrong direction.



During the final days of incubation and during hatching additional protection can be required to avoid fatal disorientation by artificial lights (i.e. from KIA, Tierra del Sol etc.)

During 2020, 29 Loggerhead nests have been protected. Incubation period 51,8 days (range: 48-54) Average 117 eggs/nest (range: 72-156). Average 94 hatchlings/nest (range: 4-126) $\approx$ 82.7 % hatching success.



Loggerhead hatchling (photo A. Goedgedrag)

Green turtle / Turtuga blanco / *Chelonia mydas*

Over the last years Green turtle nests are seen in small numbers on several beaches along the northern and eastern coast from California till Baby Beach. The Green turtle nesting season is from mid-June till the end of October. Surprisingly, the first nest in 2020 was laid on March 30.



The track is symmetric and has a width of 100-120 cm.

Systematic beach surveys revealed 57 Green turtle nests.

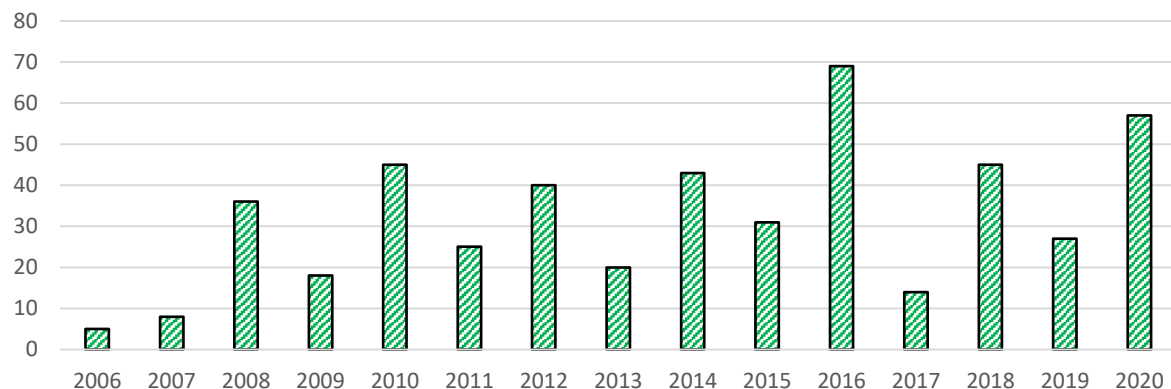
Data collected from the 57 Green turtle nests in 2020:

- incubation period 53.6 days (range: 49 - 65d)
- nest depth 83.8 cm (range: 58 - 113cm)
- 122 eggs/nest (range: 79 - 156)
- hatching success: 81.6 %

green turtle hatchling



Green turtle nests 2006-2020



The rescue

During one of his early morning patrols our volunteer found a fresh track and a nest but could not find the return track to the ocean. He kept searching and found the turtle disoriented wandering over rocky surface and at distance from the beach and the sea.

Even with more volunteers called for assistance it was not possible to get the turtle back to the sea.



Finally, the rescue was completed with support of the Aruban Fire department.



Hawksbill turtle / Caret / *Eretmochelys imbricata*

The Hawksbill turtle is the smallest of the four species nesting in Aruba

She prefers a nesting spot in or under vegetation or close to a rocky wall.

Her nest number is low and worldwide the Hawksbill turtle is classified as “Critically Endangered”.

The early morning surveys counted 19 nests in 2020.

The 2006-2020 graph shows an increased number of nests over the last 6 years.

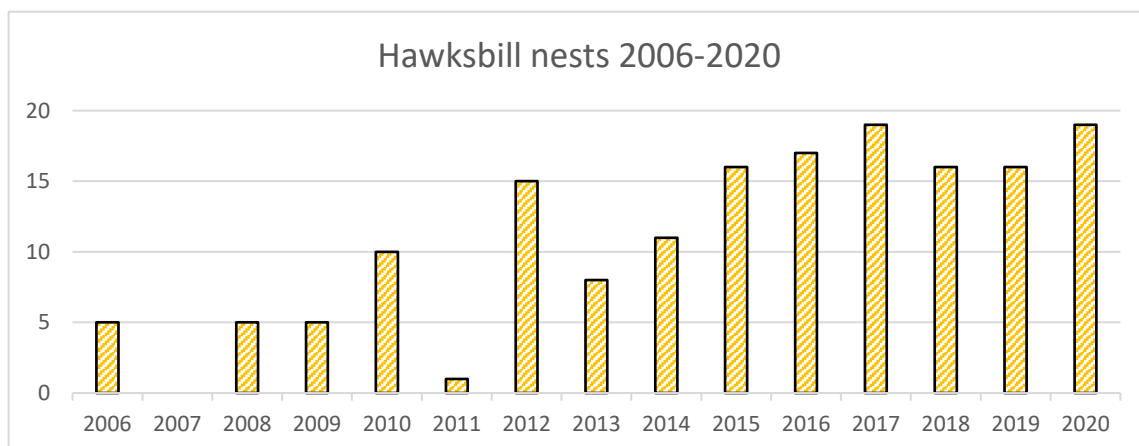
The most realistic explanation for this “increase” is improved monitoring and better detection.



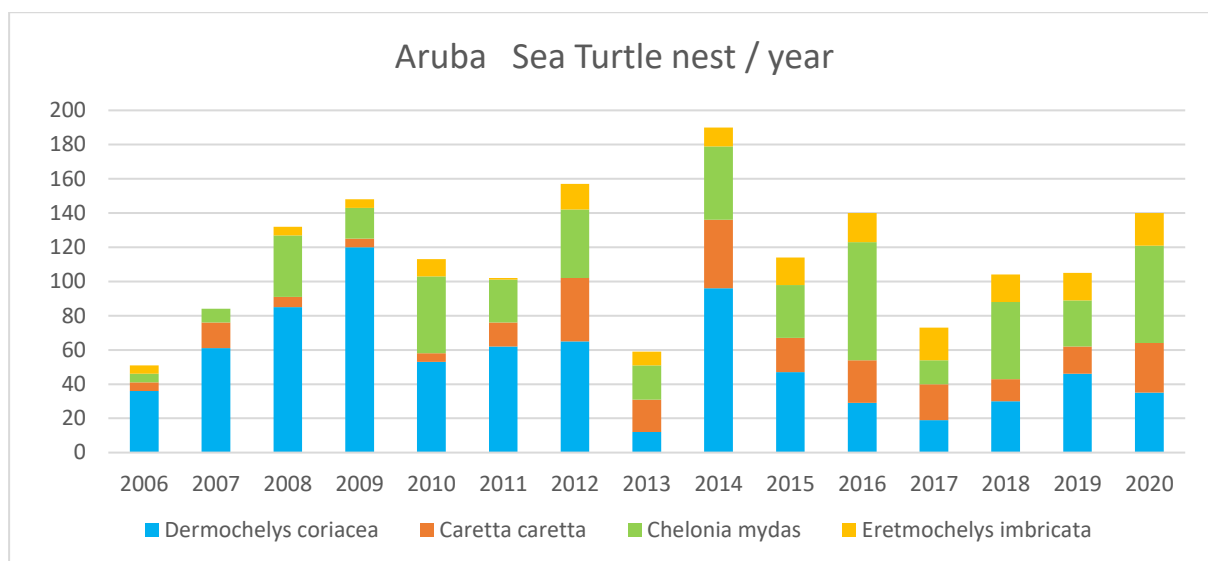
Hawksbill nest Boca Grandi

The data of the 19 Hawksbill nests of 2020:

- incubation period 58 days (range: 53 - 62)
- nest depth 55.1 cm (range: 37 - 70 cm)
- eggs /nest 141 (range: 101 - 184)
- hatching success 61.5 %



The nesting activity of all four species shows that the total nest number in 2020 was 140 nests. The “average” number during the last 15 years is 114.



Aruba receives more sea turtle nest/year than any other island of the Dutch Caribbean.

Aruba receives more tourists than any other island of the Dutch Caribbean.

Tourism and the coastal “development” are the biggest threats for sea turtles in Aruba.

Can Aruba make long-term sustainable choices?

Protecting our natural resources is the only way to protect our future livelihood.



Leatherback hatchling at Arashi Beach, Aruba